

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MICHIGAN  
SOUTHERN DIVISION

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LEAGUE OF WOMEN VOTERS OF	)	Case Number
MICHIGAN, ROGER J. BRDAK,	)	
FREDERICK C. DURHAL, JR.,	)	17-cv-14148
JACK E. ELLIS, DONNA E.	)	
FARRIS, WILLIAM "BILL" J.	)	
GRASHA, ROSA L. HOLLIDAY,	)	
DIANA L. KETOLA, JON "JACK"	)	
G. LASALLE, RICHARD "DICK"	)	
W. LONG, LORENZO RIVERA	)	
AND RASHIDA H. TLAIB,	)	
	)	
Plaintiffs,	)	
	)	
vs.	)	
	)	
RUTH JOHNSON, in her	)	
official capacity as	)	
Michigan Secretary of State,	)	
	)	
Defendant.	)	

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DEPOSITION OF CHRISTOPHER WARSHAW, Ph.D.  
Washington, D.C.  
Wednesday, August 8, 2018

Reported by: John L. Harmonson, RPR  
Job No. 145530

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August 8, 2018  
9:25 a.m.

Deposition of CHRISTOPHER WARSHAW, Ph.D.,  
held at the offices of Faegre Baker Daniels LLP,  
1050 K Street, N.W., Washington, D.C., pursuant  
to the Federal Rules of Civil Procedure, subject  
to such stipulations as may be recited herein or  
attached hereto, before John L. Harmonson, a  
Registered Professional Reporter and Notary  
Public of the District of Columbia, who  
officiated in administering the oath to the  
witness.

A P P E A R A N C E S

On behalf of the Plaintiffs:

FAEGRE BAKER DANIELS

300 North Meridian Street

Indianapolis, IN 46204

BY: JAY YEAGER, JR., ESQ.

On behalf of the Defendant:

JONES DAY

51 Louisiana Avenue, N.W.

Washington, D.C. 20001

BY: MICHAEL CARVIN, ESQ.

1 C. WARSHAW

2 -----  
3 P R O C E E D I N G S

4 9:25 a.m.  
5 -----

6 Whereupon,

7 CHRISTOPHER WARSHAW, Ph.D.,  
8 after having been first duly sworn or affirmed,  
9 was examined and did testify under oath as  
10 follows:

11 EXAMINATION

12 BY MR. CARVIN:

13 Q. Good morning, Professor. How are you?

14 A. Good morning, sir.

15 Q. My name is Mike Carvin. I'm  
16 representing the defendants in this case.

17 Have you ever had your deposition  
18 taken before?

19 A. I have not.

20 Q. Okay. You were not deposed in the  
21 Pennsylvania litigation?

22 A. I was not.

23 Q. Did you provide in-court testimony in  
24 that case?

25 A. I did.

1 C. WARSHAW

2 don't know who led that effort. But Professor  
3 Klarner has been the lead in recent years.

4 Q. And I don't see anything here about  
5 collecting information on incumbency status with  
6 respect to state legislative elections like you  
7 reference with respect to congressional  
8 elections. Why is that?

9 A. That data is in the Klarner dataset.  
10 It was, I guess, a typographical omission on my  
11 part. But it's in the Klarner dataset. It's all  
12 part of it. I didn't quite do that for  
13 presidential elections because the election  
14 results and the incumbency status come from  
15 different datasets, whereas here they all come  
16 from one integrated dataset. But I should have  
17 said that explicitly.

18 Q. Just so I understand the general gist  
19 of your report, you analyzed the efficiency gap  
20 and these other measures for the 2012, 2014, and  
21 2016 elections, correct?

22 A. Yes. However, I also calculated them  
23 for all elections between 1972 and 2016.

24 Q. Fair enough. But what I'm getting at  
25 is these are backward-looking calculations. You

1 C. WARSHAW

2 haven't made any projections for vote totals in  
3 the 2018 Michigan congressional or state  
4 legislative elections, correct?

5 A. That's correct.

6 Q. You haven't estimated the Democratic  
7 vote share statewide for any of the three offices  
8 at issue, right?

9 A. No.

10 Q. And you're not making any  
11 district-specific projections?

12 A. I am not.

13 Q. Okay. Now, if you could turn to  
14 page 6 of your report, please.

15 MR. CARVIN: Off the record.

16 (Off the record.)

17 BY MR. CARVIN:

18 Q. So at various points here you produce  
19 various estimates of, for example, where the  
20 Michigan redistricting compares to the  
21 mean-median difference for prior elections  
22 throughout the nation and various other things.  
23 Are you representing to me that all of the data  
24 underlying this analysis has been provided to the  
25 defendant?

1 C. WARSHAW

2 Q. And in recent years, at least ten  
3 different approaches have been proposed, correct?

4 A. That's what McGhee asserts in this  
5 article. I think -- I believe that's true,  
6 although I couldn't name all ten.

7 Q. But it's fair to say that the  
8 profession is striving for some uniform generally  
9 accepted measure of partisan asymmetry or  
10 partisan bias?

11 A. I think the profession is trying to  
12 improve our metrics. I think whether we will  
13 ever have one single metric remains to be seen.

14 Q. But we haven't arrived at that point  
15 yet?

16 A. I think there's differences of  
17 opinions about whether we've arrived at that  
18 point.

19 Q. Now, previously it was my  
20 understanding that the most accepted consensus  
21 measure was the partisan symmetry analysis  
22 championed largely by Gary King and Grofman. Is  
23 that fair?

24 A. Yes.

25 Q. Has that fallen out of favor in recent

1 C. WARSHAW

2 proxies for this theoretical concept.

3 And indeed, you know, none -- we'll  
4 never have an approach that is exactly perfect,  
5 but that's true for most political science  
6 concepts that we're trying to measure. You know,  
7 all social science measurements are  
8 simplifications of some theoretical concept we're  
9 trying to measure.

10 Q. Okay. And you're using the efficiency  
11 gap as your main measure of this theoretical  
12 concept?

13 A. That's correct.

14 Q. And that was first proposed by  
15 Stephanopoulos and McGhee in the 2015 University  
16 of Chicago Law Review article?

17 A. That's not exactly right. It was  
18 actually proposed by Eric McGhee in a  
19 peer-reviewed article in the Journal of  
20 Legislative Studies Quarterly in 2014.

21 Q. Okay. And --

22 A. And then the Stephanopoulos and McGhee  
23 article focused on expanding the description of  
24 it and then applying it, trying to build a legal  
25 standard that they advocated. But the



1 C. WARSHAW

2 original -- the original measure was actually  
3 developed by Eric McGhee.

4 Q. Okay. And the Chicago Law Review is  
5 not a peer-reviewed journal, right?

6 A. That's correct.

7 Q. And during the two and a half years or  
8 three years since its proposal it's received a  
9 lot of scholarly criticism in the Political  
10 Science Academy. Is that correct?

11 A. I think there has been a robust  
12 discussion of the merits of different measures  
13 with some of that centering around criticism of  
14 the efficiency gap.

15 Q. Okay. If you could turn back to  
16 Exhibit 2.

17 A. Which one is that?

18 Q. I'm sorry. The Stanford Law Review  
19 article.

20 A. Great.

21 Q. And again, this is the Stanford Law  
22 Review article by Stephanopoulos and McGhee  
23 themselves, right? And at the top of 1508 they  
24 say --

25 MR. YEAGER: Hold on just one moment,

1 C. WARSHAW

2 please.

3 MR. CARVIN: Sure.

4 MR. YEAGER: Thank you.

5 BY MR. CARVIN:

6 Q. Stephanopoulos and McGhee say that  
7 "The academic discussion of the efficiency gap  
8 includes a number of criticisms of the measure."  
9 Is that accurate?

10 A. Yes.

11 Q. And then they list, I believe, at  
12 least five scholarly articles criticizing the  
13 efficiency gap?

14 A. Yes, that's correct.

15 Q. And they cite an article by Cho, by  
16 Best, by Krasno and colleagues, by John Nagle.

17 Are these critics well-respected  
18 political scientists?

19 A. Yes, sir.

20 Q. And then also by Christopher Chambers.  
21 Is he a well-respected political scientist?

22 A. I don't know him, to be honest. I  
23 couldn't say. I assume -- I'll take it as a  
24 supposition.

25 MR. YEAGER: Could I just clarify. I

1 C. WARSHAW

2 gap has no secure baseline for establishing the  
3 degree of wasted votes that indicates a  
4 gerrymander?

5 A. In my view, there's no bright line for  
6 any of the metrics that would establish a  
7 gerrymander based on one metric alone.

8 Q. So as to the efficiency gap, the  
9 mean-median difference and declination, there's  
10 no baseline for separating an impermissible  
11 gerrymander from a tolerable result?

12 A. I think you have to look at a number  
13 of different factors. As in Michigan, I think  
14 that all of those point in the same direction,  
15 that this is an extreme partisan gerrymander.  
16 But there's no single number where I would say  
17 above 5 percent or something is definitely a  
18 gerrymander.

19 Q. So there is no well-accepted view in  
20 the profession about what efficiency gap score  
21 renders a redistricting plan unacceptable or an  
22 extreme partisan gerrymander?

23 A. That's correct.

24 Q. And the same is true of both the  
25 mean-median difference and the declination

1 C. WARSHAW

2 scores?

3 A. That's correct.

4 Q. Then it discusses effectiveness  
5 difficulties -- I'm now back to the preceding  
6 paragraph -- arise for three reasons. And the  
7 first reason they give are votes are wasted for  
8 reasons other than gerrymandering.

9 Do you agree with that?

10 A. Yes. Certainly I think that a number  
11 of factors affect election results, and those can  
12 influence the efficiency gap estimates as they do  
13 any of the other metrics to some degree.

14 Q. Then it says: "The wasted vote gap  
15 co-varies with a party's vote percentage."

16 Do you agree with that?

17 A. I don't necessarily agree. I haven't  
18 run a regression that tests that statement,  
19 although I certainly -- we certainly -- I  
20 certainly could. My -- I know in the  
21 Stephanopoulos and McGhee, in their article they  
22 argue that's not necessarily true, in their  
23 Stanford Law Review article.

24 And in my qualitative assessment of  
25 just spending a lot of time with the data,

1 C. WARSHAW

2 that's -- that's ignoring the fact that the most  
3 likely outcome in most scenarios is the favored  
4 party will win that election.

5 Q. Fair enough. But just to get to the  
6 two points we can agree on, a 52/48 district has  
7 a very poor efficiency gap score, right? It says  
8 that the disadvantaged party has wasted 46 votes  
9 in that?

10 A. I think 48 in the hypothetical you  
11 just gave.

12 Q. 48. And in relative terms, 46 because  
13 the majority party is only --

14 A. I see what you're saying.

15 Q. -- wasting two points. Is that fair?

16 A. Yes, sir.

17 Q. Okay. So we agree that those kinds of  
18 districts perform very poorly in terms of the  
19 efficiency gap, correct?

20 A. Sure. The disfavored party is wasting  
21 a lot of votes in those districts. Which is one  
22 of the reasons why cracking voters across these  
23 district is such a good strategy for the favored  
24 party.

25 Q. Right. Well, it could be a good

1 C. WARSHAW

2 A. Yes, that's true in theory. But the  
3 efficiency gap in Michigan has stayed relatively  
4 stable over the past three election cycles.

5 Q. We're going to discuss that.

6 But the authors of this article stress  
7 that a plan's efficiency gap may change  
8 substantially from one election to the next. Do  
9 you disagree with that as a general proposition?

10 A. No.

11 Q. We'll come back to how much it's  
12 changed in Michigan.

13 They recommend the sensitivity test is  
14 to take into account whether under realistic  
15 voter shifts the efficiency gap could actually  
16 favor in this case the Democrats, correct?  
17 That's their sensitivity test?

18 A. I believe that's true.

19 Q. And you've not done any sensitivity  
20 testing to determine whether or not the  
21 efficiency gap could be zero or close to zero in  
22 the 2018 or 2020 elections, right?

23 A. I have not. My entire report focuses  
24 on actual observed elections, where we now have  
25 three elections since the 2011 plan went into

1 C. WARSHAW

2 place.

3 Q. Right.

4 A. I don't look at hypothetical  
5 elections.

6 Q. Right. Well, the fact that there's  
7 elections in 2018 is not hypothetical; they just  
8 haven't occurred yet. Right?

9 A. Fair. Yes.

10 Q. And you're not making any projections  
11 about what will happen --

12 A. That's correct.

13 Q. -- in future elections?

14 A. That's correct.

15 Q. If you turn to page 864 of this  
16 article. If you read the fourth sentence in the  
17 first full paragraph on 864, it says:

18 "Specifically, a plan's efficiency gap in one  
19 election is a relatively weak predictor of its  
20 gap in the next election (coefficient equals  
21 0.23) in a model that also includes a variety of  
22 other factors."

23 Is that correct?

24 A. I haven't -- I couldn't say for sure.  
25 I haven't looked at -- what I say -- what I show

1 C. WARSHAW

2 metric is perfect, including the efficiency gap.

3 Q. Right.

4 A. I think all of these metrics have  
5 weaknesses, and that's one of the weakness,  
6 perhaps the most important weakness of the  
7 efficiency gap.

8 Q. Okay. So you agree with the  
9 efficiency gap's potentially more important  
10 limitation is instability as the authors state at  
11 page 864?

12 A. I do think that's a weakness. But I  
13 think one -- one area where I would disagree with  
14 the authors is that elections have consequences.  
15 Even if a measure is -- even if -- even if future  
16 elections can't be predicted precisely -- and I  
17 also think, you know, going back to even the  
18 Gelman and King 1994 article, it's  
19 longstanding -- it's long been known that the  
20 consequences of a gerrymander decay somewhat over  
21 time due to changing election circumstances. No  
22 one can predict the future precisely. So I don't  
23 think that's necessarily a new point.

24 So, for instance, in Michigan the  
25 efficiency gap decreases a little bit. And



1 C. WARSHAW

2 THE WITNESS: I think quantitatively  
3 those are not wholly dissimilar, but I think  
4 the context is very different. Whereas 13.2  
5 indicates to me a very clear -- clear  
6 evidence of partisan bias, once you go down  
7 to 5 or 6 percent then I think that would  
8 be -- I would need -- the efficiency gap by  
9 itself probably wouldn't be dispositive. It  
10 wouldn't be like -- no piece of evidence is  
11 dispositive, but I think it would be less  
12 significant evidence in favor of a partisan  
13 bias.

14 BY MR. CARVIN:

15 Q. So if this trend continues of the  
16 efficiency gap decreasing by 6.5 percent, then it  
17 would be roughly 6.7 percent in 2020, correct, if  
18 this trend continues?

19 A. Yes. But I think there is no evidence  
20 either way that the trend is going to continue,  
21 and certainly not that it's going to be linear.  
22 In fact, what we've seen in prior decades in  
23 Michigan is the efficiency gap -- you know, there  
24 hasn't been a linear trend in the efficiency gap.

25 So for instance in the 1990s, in

1 C. WARSHAW

2 Michigan was right in the middle.

3 Q. So for purposes of that statement,  
4 you're looking at the efficiency gaps at the end  
5 of the decade, not the efficiency gap immediately  
6 following the decennial redistricting, right?

7 A. Yes. I mean, in part because I think  
8 the 2002 efficiency gaps could have been  
9 pro-Republican because of gerrymandering in 2001.

10 Q. Right.

11 A. So I think certainly for any kind of,  
12 like, long-term geographic kind of assessment  
13 it's useful both to look at the long-term -- the  
14 long-term average as well as the average right  
15 before the new plan went into place.

16 I think looking at the 2002 efficiency  
17 gap, just like so too -- just like the 2012  
18 efficiency gap, is going to be the one that's  
19 most affected by intentional gerrymandering.

20 Q. And that will wane over time?

21 A. Yes. The literature -- I think the  
22 consensus in the literature is that the effects  
23 of gerrymandering decay somewhat over time. They  
24 do not decay away completely. They are still, in  
25 general, consequential, as I show, six years

1 C. WARSHAW

2 packed district wastes more of the party  
3 that's being packed votes. And I think that  
4 if instead of 75/25 you had had a -- you had  
5 drawn a hypothetical that was 80/20, I  
6 think -- you know, so for instance, in  
7 Michigan, two of the seats that are most  
8 packed are 84 percent Democratic and  
9 86 percent Democratic. So those seats have  
10 more wasted Democratic votes than wasted  
11 Republican votes.

12 BY MR. CARVIN:

13 Q. Right.

14 A. But I think, you know -- like I said,  
15 I haven't thought about it in quite these terms.  
16 But I do think this is the quirk of thinking  
17 about things district by district, is -- you  
18 know, there's no metric, and the efficiency gap  
19 included, that is going to be perfect at trying  
20 to characterize individual districts and -- you  
21 know, for every imaginable vote share, the  
22 relative advantaging of each party.

23 Q. Does a packed 75 percent district  
24 waste Democratic votes relative to Republican?

25 MR. YEAGER: Asked and answered.

1 C. WARSHAW

2 think all of these metrics are simplifications of  
3 reality. And at the statewide level, the  
4 efficiency gap characterizes a legislative map  
5 that is a partisan bias fairly well -- or very  
6 well. But none of these are perfect, and I think  
7 the goal of the efficiency gap is not to, you  
8 know, precisely characterize which districts are  
9 packed.

10 Instead, the goal is to make sure that  
11 the metric of gerrymandering at the statewide  
12 level comports with what McGhee and  
13 Stephanopoulos call the efficiency principle.

14 Q. Right.

15 A. Which is that if you win -- you  
16 shouldn't win more seats in the legislature  
17 without winning more votes. And if you win more  
18 seats in the legislature without winning more  
19 votes, then you should have a metric that  
20 reflects that. And the efficiency gap does.

21 Q. You think the efficiency gap  
22 corresponds to a rough equivalence between  
23 statewide vote and statewide seat share?

24 A. No, I do not. It's not a proportional  
25 metric.

1 C. WARSHAW

2 infinitesimally, you know, .1 or something  
3 more wasted Republican votes there than  
4 wasted Democratic votes.

5 I don't have -- personally, I don't  
6 have a view of exactly what the threshold is  
7 for a packed district. Probably I would say  
8 75/25 would be above that threshold. So it  
9 seems that this is a little idiosyncratic as  
10 to the efficiency gap in this case. But the  
11 goal of the efficiency gap is to capture  
12 gerrymandering at a statewide level; it's  
13 not to give a precise characterization of  
14 individual districts that are packed or  
15 cracked.

16 BY MR. CARVIN:

17 Q. All right. Now, in a 51 percent  
18 Republican and 49 percent Democratic district,  
19 the Democrats have wasted 49 percent of the  
20 votes, right?

21 A. Yes.

22 Q. And the Republicans have wasted  
23 1 percent of the votes?

24 A. Right.

25 Q. So the efficiency gap in a 51/49

1 C. WARSHAW

2 district is 48, right?

3 A. Yes.

4 Q. Okay. And the efficiency gap in a  
5 75 --

6 A. Well, the difference in wasted votes,  
7 to be more precise. That's not the efficiency  
8 gap, but the difference in wasted votes would be  
9 48.

10 Q. And that's an extraordinarily high  
11 amount of wasted votes in a district, right?

12 A. Correct. Well, it's an  
13 extraordinarily high differential in the wasted  
14 votes.

15 Q. And so a 51/49 gets a worse efficiency  
16 gap or wasted votes measure than a 75/25  
17 district. Is that right?

18 A. Well, it certainly suggests that when  
19 one party would be much more disadvantaged --  
20 there's much more of a differential in the wasted  
21 votes than in a 75/25.

22 Q. Okay. So let's go back to your  
23 example. The efficiency gap in this plan right  
24 now is 20 percent pro-Republican?

25 A. In this illustrative plan in Table 1,

1 C. WARSHAW

2 election where one party gets 60 or 65 percent,  
3 say, of the statewide vote, you know, then the  
4 different metrics will diverge a little bit more.  
5 But we don't observe that very much in the modern  
6 U.S., and we certainly don't observe it in  
7 Michigan.

8 Q. Right. So in the modern era, when  
9 there are competitive elections, there's  
10 virtually never or very rarely any divergence  
11 between efficiency gap, mean-median, and  
12 declination, correct?

13 A. I would agree with that.

14 Q. Okay. Why don't we discuss the  
15 mean-median. That was first proposed in a 2015  
16 Election Law Journal by Best and McDonald?

17 A. I believe that's true.

18 Q. And the Election Law Journal, is that  
19 a peer-reviewed journal?

20 A. Generally speaking, it is. I think  
21 they do publish occasionally doctrinal articles  
22 that might not be peer-reviewed, but their social  
23 science articles are peer-reviewed.

24 Q. Okay. There's certainly no wide  
25 scholarly acceptance of mean-median as the best

1 C. WARSHAW

2 or proper measure of partisan gerrymanders,  
3 correct?

4 A. Correct.

5 Q. And it's been subject to serious  
6 criticism by respected political scientists?

7 A. Correct.

8 Q. Including Stephanopoulos and McGhee?

9 A. Correct. I think I discuss some of  
10 those criticisms in my report.

11 Q. Yeah, why don't we turn to that. If  
12 you could turn to page 9 of your report.

13 A. Yes.

14 Q. One problem with it is it is possible  
15 for packing and cracking to occur without any  
16 change in the mean-median difference, right?

17 A. Correct. I think McGhee in his 2017  
18 article shows this, demonstrates this empirically  
19 with simulations.

20 Q. And therefore a party could gain seats  
21 in the legislature without the mean-median gap  
22 changing, correct?

23 A. Correct.

24 Q. Another problem with it is it's  
25 sensitive to the outcome in the median districts?



1 C. WARSHAW

2 by definition because the median has to be less  
3 than 50 percent?

4 A. I think that's true in a situation  
5 with equal turnout.

6 Q. And how about if a party got  
7 53 percent of the statewide vote and won all ten  
8 of the seats, so 53/47. 53 percent of the vote  
9 would capture 100 percent of the seats but the  
10 mean-median difference would be zero, correct?

11 A. If they got -- if the median -- if all  
12 of the seats were 53 percent and they had a mean  
13 across them of 53 percent, then yes, I believe in  
14 that case -- I haven't thought about this before  
15 this conversation. But I believe in that case  
16 that would be a mean-median of zero.

17 Q. Okay. And this declination theory,  
18 this was published this year by this fellow named  
19 Warrington?

20 A. Correct.

21 Q. Has there been any scholarly  
22 commentary on this?

23 A. No. I think it's a new metric and  
24 there's been -- to my knowledge, there's been no  
25 explicit response or critique, although I'm not

1 C. WARSHAW

2 100 percent sure of that.

3 Q. So obviously there hasn't been wide  
4 acceptance of this measure in the political  
5 science community as a proper measure of partisan  
6 bias or gerrymander?

7 A. Just because it's so new. I don't  
8 think there's a consensus either way.

9 Q. Okay. Again, to the extent I can  
10 understand this thing, it's you look at the  
11 difference between the two vote lines or  
12 something like that?

13 A. Yeah, correct.

14 Q. All right. My first question is: Do  
15 you really expect the judges to understand this  
16 thing?

17 But in any event, again, if you're  
18 getting a minority of the vote and a majority of  
19 the seats, this declination is going to be -- is  
20 going to show a problem, right?

21 MR. YEAGER: Object to the prior  
22 comment which is part of the question I  
23 think. I'm sure the judges can understand  
24 this perfectly well.

25 You can answer.

1 C. WARSHAW

2 in a state where one party or another is more  
3 likely to have wasted votes, they're less likely  
4 to have views that are congruent with their  
5 legislator.

6 Q. Well, in Michigan you claim there were  
7 five Democratic packed districts in Congress,  
8 right?

9 A. I believe that's true.

10 Q. Okay. And there was only two or three  
11 cracked districts because under any seats-votes  
12 analysis they would only be expected to get seven  
13 or eight seats, right?

14 MR. YEAGER: Objection; misstates the  
15 record.

16 You may answer.

17 THE WITNESS: I don't think I made a  
18 characterization in my report of which  
19 districts precisely were packed and cracked,  
20 and I'm reluctant to do so now.

21 BY MR. CARVIN:

22 Q. So we don't know which districts they  
23 are, but whichever they are, there can only be  
24 three cracked districts where there's five packed  
25 districts, right? You're not expecting Democrats

1 C. WARSHAW

2 C E R T I F I C A T E

3  
4 DISTRICT OF COLUMBIA

5 I, JOHN L. HARMONSON, a Notary Public  
6 within and for the District of Columbia, do  
7 hereby certify:

8 That CHRISTOPHER WARSHAW, the witness  
9 whose deposition is hereinbefore set forth, was  
10 duly sworn or affirmed by me and that such  
11 deposition is a true record of the testimony  
12 given by such witness.

13 That if the foregoing pertains to a  
14 federal case, before completion of the  
15 proceedings, review and signature of the  
16 transcript [X] was [ ] was not requested.

17 I further certify that I am not related  
18 to any of the parties to this action by blood or  
19 marriage; and that I am in no way interested in  
20 the outcome of this matter.

21 IN WITNESS WHEREOF, I have hereunto set  
22 my hand this 15th day of August, 2018.

23  
24  
25 \_\_\_\_\_  
JOHN L. HARMONSON, RPR